SofTec Microsystems
IDB-ST7FLITE2
Evaluation Board
For STMicroelectronics
ST7FLITE1/LITE2 FLASH Families

User's Manual

1. Introduction

Overview

The IDB-ST7FLITE2 Evaluation Board demonstrates the capabilities of the ST7FLITE1/LITE2 FLASH microcontrollers. The IDB-ST7FLITE2 Evaluation Board can be used as a standalone application or with an emulator system, such as inDART-STX, through an ISP connection.

Board Features

The IDB-ST7FLITE2 Evaluation Board has the following hardware features:

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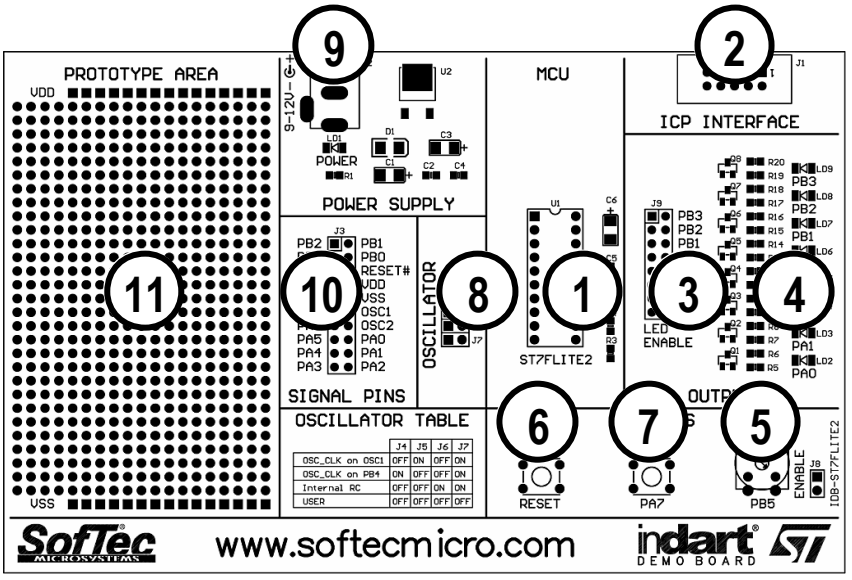
1. An ST7FLITE2 microcontroller (in DIP20 package—in addition, you can also use any of the LITE1/LITE2 family devices in DIP20 package);
2. A standard ICP connector;
3. Eight jumpers to connect/disconnect each of the eight LEDs to/from their respective Port A/B pin;
4. Eight high-efficiency (low-current) LEDs connected to Port A/B;
5. A potentiometer, together with a jumper to connect/disconnect it to/from PB5;
6. A push-button switch connected to RESET;
7. A push-button switch connected to PA7;
8. Four jumpers to select the microcontroller's clock source.
9. A connector for a 9-12 V, 200 mA power supply;
10. A connector area to access the I/O pins of the microcontroller for expansion prototyping;
11. A prototyping area.



The IDB-ST7FLITE2 Demo Board

Supported Devices

The IDB-ST7FLITE2 Evaluation Board supports the following DIP20 devices:

- ST7FLITE10;
- ST7FLITE15;
- ST7FLITE19;
- ST7FLITE20;
- ST7FLITE25;
- ST7FLITE29;
- And any future LITE1/LITE2 pin-to-pin compatible device.

Recommended Reading

- ST7 Family 8-Bit MCUs Programming Manual;
- ST7 Family Data Sheets;
- inDART-STX for ST7 User's Manual;
- inDART-STX for ST7 User's Manual Addendum.

2. Getting Started

Overview

The IDB-ST7FLITE2 Evaluation Board can be used in conjunction with a ISP-based emulator/programmer, such as SofTec Microsystems' inDART-STX In-Circuit Debugger/Programmer.

If you use the evaluation board with SofTec Microsystems' inDART-STX, a sample application is provided. The sample application configures the A/D peripheral to convert on the A/D channel connected to the potentiometer and displays the results on the LEDs.

You can use inDART-STX together with STMicroelectronics Visual Debug (STVD7) to debug the application by, for example, execute the program step by step and watching how the microcontroller registers vary.

Preliminary Operations

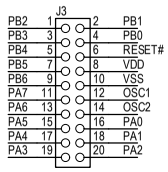
Before to try out the sample application, you must verify that both the inDART-STX and the evaluation board are correctly set up.

1. Ensure that inDART-STX is connected to the PC (via the USB cable) and to the demo board (via the ISP connector).
2. Make sure that the "OSCILLATOR" jumpers on the demo board select the "OSC_CLK on PB4" position (jumpers J4 and J7 inserted, jumpers J5 and J6 removed).
3. Make sure that all of the "LED ENABLE" jumpers (J9) and the "POTENTIOMETER ENABLE" jumper (J8) are inserted.
4. Make sure that the sample device is in the appropriate socket on the board. Finally, power up the evaluation board. The power connector accepts 9-12 V DC, 200-mA wall plug-in power supply with a 2.1 mm pin and sleeve plug with positive in the center and sleeve as ground. Upon powering up the board, the green "POWER" LED turns on.

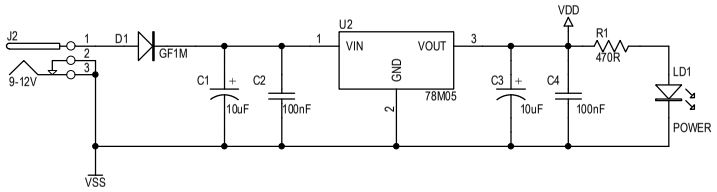
Running the Sample Application

1. Run the STVD7 user interface.
2. From the STVD7 main menu, choose **File > Open Workspace**. Select the **"adc.wsp"** workspace file that is located under the **"\Program Files\SofTec Microsystems\inDART-STX\ST7\STVD7\Samples\Asm\LITE2\Adc"** directory. Click **"Open"**.
3. The application has already been assembled and the executable file generated. From the main menu, choose **Debug > Start Debugging**.
4. From the main menu, select **Debug > Run**. The program will be executed in real-time. Please note that the "BUSY" LED on the inDART-STX unit turns on.

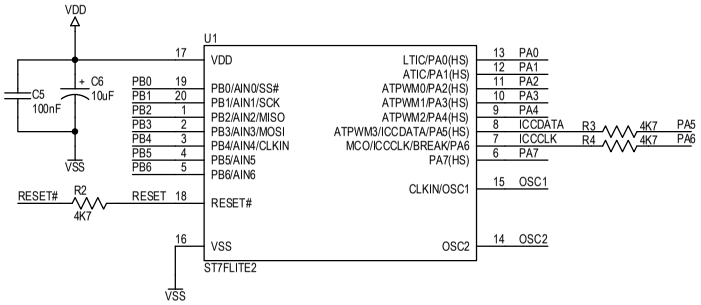
5. By rotating the potentiometer on the demo board, you affect the results of the A/D conversion, and the binary value of each conversion is displayed on the LEDs.
6. When you want to stop the sample application, select **Debug > Stop Program** from the STVD7 main menu.



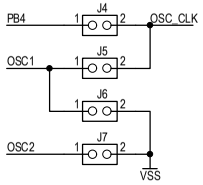
SIGNAL PINS



POWER SUPPLY



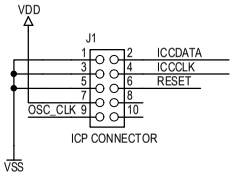
MCU



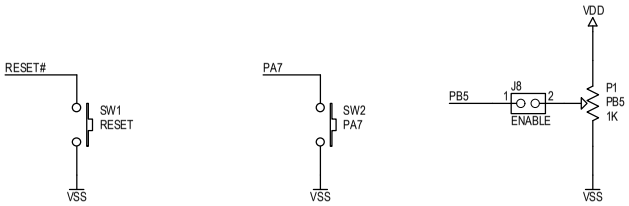
OSCILLATOR TABLE

	J4	J5	J6	J7
OSC_CLK on OSC1	OFF	ON	OFF	ON
OSC_CLK on PB4	ON	OFF	OFF	ON
Internal RC	OFF	OFF	ON	ON
USER	OFF	OFF	OFF	OFF

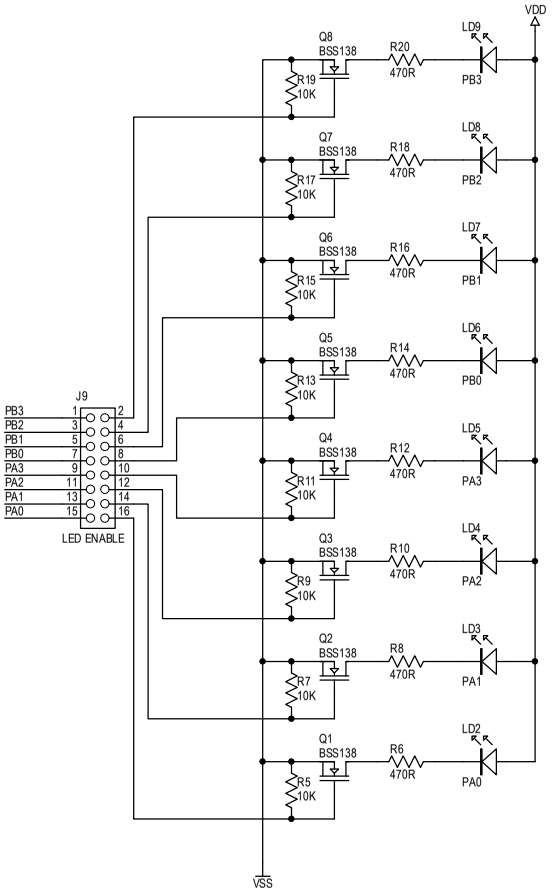
OSCILLATOR



ICP INTERFACE



INPUTS



OUTPUTS

SofTec MICROSYSTEMS	www.softecmicro.com	ID: SD00296	IDB-ST7FLITE2	Date: 13/01/2003	Sheet: 1/1